A STUDY ON ASSOCIATION BETWEEN GLAUCOMA AND OBSTRUCTIVE SLEEP APNEA SYNDROME– AN OBSERVATIONAL STUDY

ABSTRACT

AIM:

The Aim of this study was to Find the prevalence of glaucoma in Obstructive sleep apnea patients, To determine the association between severity of OSAS and glaucoma, To find the correlation between Apnea-Hypoapnea Index and IOP, C:D ratio in sleep apnea patients.

MATERIALS AND METHODS:

It is a cross sectional observational study undertaken on a total of 86 patients with OSAS from 2016-2017. Informed consent was obtained. An overnight polysomnography was performed in all patients in sleep lab and they were categorized based on AHI. Simultaneous measurement of BMI (body mass index) and a complete ophthalmologic examination which included best corrected visual acuity, Goldman tonometry, visualfields, gonioscopy, ultrasound pachymetry and fundus examination were performed for each subject.

RESULTS:

Nearly 23 (26.7%) patients had mild OSAS, 35 (40.7%) had moderate OSAS, 28 (32.5%) had severe OSAS. The prevalence of glaucoma in these OSAS group of patients were found to be 26.7%.Out of this 86 OSAS patients nearly 23 patients developed glaucoma. Among the glaucoma patients, about 14 (60.8%) who had reduced central corneal thickness by ultrasound pachymetry were diagnosed as normotensive glaucoma, 9 (39.1%) patients

diagnosed with POAG. Among 14 NTG patients, 2 patients presented with splinter haemorrhages in optic disc. Of the 23 patients diagnosed with glaucoma, 13 patients had severe OSAS implying that increasing severity of OSAS contributes to development of glaucoma, which was statistically significant.

CONCLUSION

There was significant correlation between the presence of glaucoma and age, apnea hypopnea index (AHI), and body mass index (BMI). So as the BMI increases IOP also increases. A significant positive correlation with AHI was documented for IOP and cup/disc ratio. Thus it is mandatory to screen OSAS patients for glaucomatous changes earlier to prevent the progression and complication of glaucoma.

KEYWORDS:glaucoma, intraocular pressure ,normotensive glaucoma,obstructive sleep apnea,apnea-hypoapnea index, visual fields,cup disc ratio.